POST-ACQUISITION STRATEGIES, INTEGRATION CAPABILITY, AND THE ECONOMIC PERFORMANCE OF CORPORATE ACQUISITIONS

By

H. SINGH*
And
M. ZOLLO**

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* The Wharton School Department of Management University of Pennsylvania, Philadelphia, PA 19104, USA.

** Assistant Professor of Strategy and Management at INSEAD, Boulevard de Constance, 77305 Fontainebleau Cedex, France.

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Harbir Singh  
The Wharton School  
Department of Management  
University of Pennsylvania  
Philadelphia, PA 19104.  
(215) 898-6752  
singhh@wharton.upenn.edu

Maurizio Zollo  
INSEAD  
Department of Strategy & Management  
77305 Fontainebleau, France.  
Tel: (33-1) 60 72 44 74  
Fax: (33-1) 60 74 55 43  
zollo@insead.fr

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ABSTRACT

This paper introduces a knowledge-based view of corporate acquisitions, and tests the post-acquisition performance consequences of two capability-building mechanisms: experience accumulation and knowledge codification. In the model, the acquiring firm makes decisions about the level of integration and the degree of replacement of the target’s top management team, and can develop a capability to manage the post-acquisition integration process by tacitly accumulating acquisition experience and explicitly codifying it in manuals, systems and other acquisition-specific tools. In a sample of 228 acquisitions in the US banking industry, we find that experience accumulation fails to significantly impact performance, but that knowledge codification has a strong and positive influence. The impact of codification is also strengthened with increasing levels of post-acquisition integration, i.e. when the organizational challenge becomes increasingly complex. Finally, the level of integration between the two firms involved in the acquisition significantly enhances performance, while the replacement of top managers in the acquired firm impacts performance in a negative fashion. Implications are drawn for organizational learning theory and for a knowledge-based approach to corporate strategy research.
1. INTRODUCTION

Corporate acquisitions have long been a topic of interest to researchers in economics, management and finance. The cumulative evidence on the general economic impact of the phenomenon shows that stockholders of the target firms make positive economic returns, while acquirers’ abnormal returns are not statistically distinguishable from zero. While the question of overall average returns has crucial importance from a public policy standpoint, however, an important managerial question relates to the explanation of the variance of the performance distribution of acquisitions. In other words, whatever the aggregate performance implication of M&A activity, it is necessary for strategy scholars as well as practitioners to understand the factors explaining why some firms perform better in managing acquisitions than others do.

Several classes of explanations have been raised during the most recent years, in order to tackle this question. The empirical literature in finance and economics dedicated substantial efforts to the appreciation of the performance implications of characteristics of the deal-making process, such as the degree of hostility and the number of simultaneous bidders. The strategic management field focused its attention primarily on the impact of resource and market relatedness among the two firms, while other researchers rooted in behavioral traditions have emphasized the (primarily negative) implications of the post-acquisition integration phase.

In this paper, we examine how firms accumulate and codify knowledge from prior experience in acquisitions, and the effects of these collective learning processes on the economic performance of acquisitions. We also provide a theoretical treatment and an empirical test for the performance implications of post-acquisition integration decisions and of the interaction between integration decisions and the capability-building mechanisms.

The US banking industry, where the study is positioned, is a good example of an extremely
turbulent environment, where the tight coupling of deregulation, disintermediation, and technological evolution processes have generated an unprecedented wave of acquisitions in a relatively short amount of time. It thus provides a good laboratory for testing the differential acquisition performance outcomes associated with different acquirers’ approaches to post-acquisition management, and with different levels of expertise in the management of the integration process.

The following section 2 summarizes several strands of prior research relevant to the empirical context under study, while a knowledge based perspective applied to the management of acquisition processes is introduced in section 3, where testable hypotheses are also advanced. Section 4, then, describes the research design, some of the key findings in our fieldwork and the operationalization of the most important theoretical constructs. The results of the analyses performed on the data gathered are then provided in section 5, while section 6 concludes the paper with the discussion of some implications for the corporate strategy and organizational learning theories.

2. THE PERFORMANCE OF CORPORATE ACQUISITIONS

In our review of prior research, we will summarize the theoretical arguments made and the empirical results obtained in the quest for the explanation of performance in acquisition processes. We will therefore examine research embedded in financial economics, strategic management and organizational theory highlighting each different arguments of the performance function.

2.1 The Market for Corporate Control and the Resource-based Views of Acquisitions

Research in financial economics examined returns to acquirers and targets in large samples of acquisitions. The dominant view in the financial economics literature is that acquisitions are transactions reflecting the workings of the market for corporate control. Management teams vie for the control of productive assets of firms. If a particular management team underperforms, then a more competent team takes its place (Manne, 1965; Jensen and Ruback, 1983). Empirically, research finds
that while there are positive gains from the combination of the acquiring firm and the target’s assets, much of the gains accrue to shareholders of the target firm. More recent empirical work shows evidence that *average* abnormal returns to the acquiring firm are either statistically equivalent to (Jarrell et al., 1988, Franks et al., 1991; Loderer & Martin, 1992; Schleifer & Vishny, 1994) or lower than (Agrawal et al., 1992) zero.

Research in financial economics has historically revolved around the question of the location of the mean of the distribution of abnormal returns. The strategic management field, on the other hand, has the merit of having advanced a major body of theoretical and empirical literature focused on factors which might provide a systematic discrimination between high and low performance. The most widely used perspective on acquisitions is the resource-based view of the firm (Wernerfelt, 1984; Rumelt, 1984; Barney, 1988, Dierrickx & Cool, 1989). Empirical work in this area has used the resource perspective of the firm in order to test the impact of resource relatedness on the performance of these transactions (Chatterjee, 1986; Singh and Montgomery, 1987; Lubatkin, 1987; Shelton, 1988; Seth, 1990, Healy, Palepu & Ruback, 1992, Chatterjee et al., 1992). The evidence suggests of an unclear relationship between the two constructs, however, which might be due to a number of reasons. First, there might be several mechanisms for the enhancement of the performance of the combined entity which do not rely on the exploitation of economies of scale and scope, and that therefore would not benefit from higher degrees of relatedness among the two firms. Seth (1990), for example, discusses and finds some evidence for coinsurance effects, which allow the combine entity to obtain higher leverage from the combination of uncorrelated streams of cash flows, yielding higher tax shields. In a study of LBO firms and “enlightened” conglomerates of the 90s, then, Baker & Montgomery (1994) find that these organizational forms are capable of consistently creating significant rents by developing idiosyncratic capabilities in the structuring of highly powered incentive systems (LBO firms) and in the restructuring, turnaround and control processes (the conglomerates, see also Taubman & Haspeslagh,
Second, Barney (1988) has argued that for acquirers to earn positive abnormal returns on their investments, they must create a uniquely valuable and non-imitable combination of their assets with those of the acquired firm. According to this argument, these conditions do not materialize in a systematic way, and therefore acquirers cannot expect to have positive abnormal returns based on the degree of relatedness of their assets with those of the target firm (Barney, 1988). The premiums paid to gain control of the target, in fact, typically reflect the potential synergies that could be gained from relatedness, as this information is relatively transparent to both counterparts during the negotiation process. Third, the model relying on relatedness as the key antecedent of performance might be seriously misspecified, as it does not include a crucial set of mediating factors between relatedness and performance, having to do with the activities necessary for the extraction of the available rents from economies of scale and scope. Relatedness, in fact, provides the potential for the exploitation of shared resources and competencies, but this potential has to be realized through the careful design and execution of a process aimed at the achievement of a certain degree and type of combination among the two organizations. In a correctly specified model, then, rents might be shown to accrue to the actual rent extraction activities, as opposed to the existence of the potential conditions for rent creation inherent in the degree of resource relatedness.

This does not mean, however, that relatedness does not play a role in the explanation of the variance of acquisition performance. There might still be important cases, in fact, where relatedness can have a critical and direct impact on performance, such as the use of acquisitive tools in the context of declining industries (Anand and Singh, 1997), but the generalizability of that impact can be called into question on both theoretical and empirical grounds.

This paper intends to contribute toward the correction of the misspecification error highlighted above. The next section will therefore review the existing theoretical and empirical literature focusing on the management of the post-acquisition phase.
2.2 Research on the Management of Integration Processes

The process by which acquiring firms manage their acquisitions is substantially more complex to study empirically, because of the lack of process level data typically available in sufficiently large number of observations. As a result, research on the process of managing acquisitions is still in the exploratory stage, relatively to the literature summarized above, and empirical regularities are still being established.

One of the earlier pieces of research on the management of acquisitions, by Jemison and Sitkin (1986), indicates that it is useful to think about acquisitions in terms of both their strategic fit and organizational fit. Organizational fit tends not to correspond neatly to strategic fit. Thus, the complexity of an acquisition from an organizational standpoint can be quite different from what may be implied by the strategic considerations driving the transaction. Building on this insight, Haspeslagh and Jemison (1991) suggest a taxonomy of approaches for managing the integration process based on the combination of two types of assessments: the degree of strategic interdependence among the two firms, and the need for organizational autonomy necessary to protect and enhance the set of competencies in the two firms. The three approaches, labeled preservation, absorption and symbiosis, provide a set of prescriptions on how the acquiring firm should structure the integration phase.

Haspeslagh & Jemison (1991)’s work had the merit to expose the relevance of the process through which firms select their acquisition targets, negotiate the agreement to purchase or to merge, decide about the approach to take in managing the post-acquisition transition phase, and finally interact with the acquired firm to implement the selected integration strategy. It also indicates some of the critical dimensions of the post-acquisition decision-making process, such as the extent of functional integration and the timing for its implementation. It stops short, however, of offering a theoretical argument for the type of performance implications to be expected from each of the relevant decisions, and for the conditions under which those effects might or might not be expected to hold.
Subsequent work has attempted to advance our understanding of post-acquisition processes by focusing on a single decision at a time and therefore trading off rich contextual descriptions of the interdependencies among integration decisions for analytical precision and theoretical rigor. For example, the choice of the level of integration between the acquired and the acquiring organization has been the subject of empirical inquiry. Pablo (1994) studied the antecedents of this decision by surveying managers engaged in hypothetical decisional scenarios, whereas Datta and Grant (1990) and Shanley (1994) attempted to test the performance implications of this particular decision, finding some (weak) support for a positive influence. More recently, Capron (1999) found that the extent of resource redeployment and knowledge transfer among the two organizations is significantly related with increased performance, thereby providing additional evidence on the benefits of achieving at least a partial degree of integration among the two organizations.

Another important dimension of the post-acquisition integration process consists in the degree to which pre-existing resources within the acquired firm are replaced with the equivalent resources of the acquirer, or simply dismissed. Chief among the various types of firm resources is the human and social capital embedded in the employees and, particularly, in the top management team. The degree to which post-acquisition turnover of human resources is actively pursued by acquirers eager to speedily implement the desired changes and obtain the expected performance improvements, has been researched in a small number of empirical studies. Contrary to the predictions of the “market for corporate control” approach which advocates the benefits of replacing underperforming management teams, Cannella and Hambrick (1993) find that managerial turnover was harmful to acquisition performance, and that the impact increased in magnitude the higher the degree of seniority of the replaced managers. More recently, Krishnan, Miller and Judge (1997) reach similar conclusions, adding that the degree of complementarity among the two top management teams positively influences performance and should therefore be protected, when possible.
Similarly to Pablo’s (1994) work on the choice of the integration level, a limited number of empirical studies have researched the antecedents of the decision to replace the target’s top management team. Walsh (1988) examines top management turnover rates, comparing post-acquisition turnover in a sample of firms with respect to a control group. He finds that turnover rates cannot be explained by the product market relationship between the acquirer and the target firm. In subsequent work, Walsh and Ellwood (1991) find that post-acquisition turnover can be explained by characteristics of the negotiation process and by the pre-acquisition profitability of the acquirer (as opposed to the target, as one would expect). This unexpected finding foreshadows the role of the acquiring firm’s features, as determinants of the characteristics of the post-acquisition integration phase. Proceeding along this type of reasoning, some recent evidence shows in fact that both the decisions about the replacement of top management and about the level of integration of the acquired organization are influenced by organizational learning processes within the acquiring firm, over and above the influence of transaction characteristics (Zollo, 1998). Acquiring firms with higher levels of acquisition experience and with more sophisticated acquisition tools tend to integrate the acquired organization to a larger extent and to replace its top management with higher probability.

In sum, research on the process of acquisition management has emphasized the potential benefits as well as the complexities involved in extracting rents from acquisition processes. Striking the right balance between the achievement of the necessary level of organizational integration and the minimization of disruptions in the resources and competencies existing in the acquired firm seems to be a fundamental challenge not just for the success of the integration process, but for the performance of the entire acquisitive venture. This observation alone has been useful, in that it has pointed to the difficulty in conceptualizing acquisitions purely in terms of a stylized combination of resources of the firms involved in the transaction. The other contribution of this stream of research consists in the identification of two of the key dimensions of the post-acquisition integration problem: the
determination of the degree of integration between the firms and in the assessment of the degree of replacement of key strategic resources within the acquired organization, chiefly the managerial personnel. These two decisions are not exhaustive of the list of possibly relevant dimensions of the integration process. We view them, however, as an important initial step towards the construction of a theory of the economic performance of acquisition processes. Finally, the observations made above about the complex trade-offs to manage in the planning and execution of the integration process suggest the need for a better understanding of the mechanisms behind the development of collective competence specific to the management of the integration process. Unfortunately, though, the limited empirical work that explicitly considers the relationship between the acquiring firm’s experience and acquisition performance shows evidence that simple “learning curve” explanations might not immediately apply. While some studies found a positive impact (Fowler & Schmidt, 1989; Bruton, Oviatt & White, 1994), others fail to find significant effects (Lubatkin, 1987; Baum & Ginsberg, 1997). Recently, Haleblian and Finkelstein (1999) reported evidence for a non-linear, U shaped, relationship, motivated by the possibility of negative learning effects (Cormier & Hagman, 1987) for the first few acquisition experiences.

Given the degree of causal ambiguity and heterogeneity of the acquisition process, acquirers might apply lessons learned in past experiences to contexts that seem superficially similar but are inherently different, thereby reducing the probability of success. There is clearly a need to understand in more depth the mechanism responsible for the development (or lack thereof) of organizational capabilities specific to the management of complex, infrequent and heterogeneous events such as acquisitions. We therefore advance a knowledge-based perspective on the management of acquisition processes in the following section, and then show how it can help our understanding of the performance implications of post-acquisition integration processes.
3 A KNOWLEDGE-BASED PERSPECTIVE ON MANAGING ACQUISITIONS

This section presents the theoretical perspective invoked, based on the forming knowledge-based view of the firm (Nelson & Winter, 1982; Kogut and Zander, 1992; Grant, 1996), and then proceeds by submitting the research hypotheses based on this, as well as the received, theory.

In taking a knowledge-based view of acquisitions, we suggest that the performance of the acquisition process is influenced by the degree to which the acquiring firm develops a capability specific to the management of the acquisition process. In particular, the ability to manage the post-acquisition integration process has been identified in the literature as a crucial dimension and a key prerequisite for the successful completion of these complex organizational endeavors (Haspeslagh & Jemison, 1991). However, the current knowledge on this issue stops short of explaining how acquiring firms develop this specific competence and under what conditions this might or might not happen. In order to make progress on this front, it is necessary to discuss the nature of organizational knowledge and the processes by which it accumulates within the firm, thereby forming and constantly reshaping effective organizational practices.

3.1 Organizational Knowledge and Capability-building Mechanisms

Roger (1980), Winter (1987) and Kogut and Zander (1992) provide several dimensions of organizational knowledge which influence the way practices evolve and transfer within and across firms. These dimensions include the degree to which knowledge is articulable, teachable and codifiable, that is the extent to which the individuals and the groups which possess the knowledge are actually aware of it, can describe it and therefore communicate it using oral or written media (Polanyi, 1962 and 1966). These dimensions of knowledge are clearly interrelated. Importantly for the purpose of our discussion, the degree of articulability and teachability will influence the degree of codifiability. The knowledge at the basis of any given organizational process, then, accumulate more or less easily in explicit forms, such as manuals, blueprints, information systems, as opposed to implicit forms.
Given the degree of codifiability of the knowledge necessary to perform a certain task, however, firms might deliberately choose to codify to different degrees the amount of experience accumulated. Firms with equivalent levels of experience, in other words, might develop written tools or information systems of different kind and in different magnitudes. Not all codifiable and teachable knowledge, then, is actually codified and taught. Actually, due to the presumably high costs for the investments of time, energy and resources necessary to create and update tools and systems, the portion of codified knowledge relative to what is potentially codifiable might be quite small. The decision to invest scarce managerial resources in codification processes might therefore be interpreted as a strategically relevant activity, which might have significant repercussions on the development of explicit competence in the execution of a given task. In the process of producing tools and systems useful for the execution of the task, in fact, the group of individuals involved in such activity will have to produce a significant cognitive effort in the evaluation of the performance implications of the decisions made and the actions taken in their own past experiences. That effort will have the, often implicit and unnoticed, effect to increase the degree of understanding of the causes of successes and failures in the execution of the tasks, to increase, in other words, the capability to plan and manage that particular process. Weick’s (1979 and 1995) work on retrospective sense-making makes similar points, even if the proposed approach can do without the deliberatedness in the learning efforts often implicitly assumed. Firms, or groups of individuals, might become more knowledgeable about the drivers of performance of a certain task without realizing that they are doing so. Creating a tool to improve the execution of future tasks might have unexpected knowledge spillovers in the understanding of the complexities of the task itself.

If these arguments are correct, then, the accumulation of experience in the execution of a certain task is not the only determinant of the degree to which an organization develop competence, as
explained in the standard treatment of learning curve phenomena (Yelle, 1979; Dutton & Thomas, 1984). The degree to which past experience is reflected upon, articulated and codified into ad-hoc tools is another crucial element of the evolution of effective organizational practices. Both tacit knowledge accumulation and explicit knowledge codification might therefore be antecedents to the development of organizational capabilities, at least in the context of infrequent and heterogeneous processes.

It is important to note that the argument is based on the effects of the process of knowledge codification, not on its outcomes. It is not so much the use of these tools as repositories of collective memory (Cohen & Bacdayan, 1994; Cohen et al. 1996) or as diffusers of organizational knowledge (Nonaka, 1994; Nonaka & Takeuchi, 1995) that is of essence here. It is the process of designing, creating and fine-tuning these tools that directly enhances the collective understanding of how to best execute a given task. This has important implications for the sustainability of the advantages from codification processes. While the codification of knowledge reduces the ability of firms to protect their rents from imitation and replication (Winter, 1995) and might induce phenomena of superstitious learning (Levitt & March, 1988), the superior understanding of the action-performance linkages derived from the creation of those tools will not diffuse with the tools. Just like it is not sufficient to send a manual of explanations in order to transfer superior practices (Szulanski, 1997), it will not be easy for competitors to reproduce the performance of the initial codifier even if they can obtain access to the tools.

The proposed approach is to be considered complementary to the “recombinatory” (Kogut & Zander, 1992; Grant, 1996, Teece, Pisano & Shuen, 1997) or modular (Henderson & Clark, 1990, Clark & Fujimoto, 1991; Sanchez & Mahoney, 1996) views of organizational capabilities, which emphasizes the manipulation of competence already residing within the organization. Recombining, integrating, or “harnessing” current knowledge, in fact, is distinguishable and ought to be distinguished from the creation of new organizational competence from both a theoretical and an empirical
standpoint. Also, the exclusion of vicarious learning mechanisms from the submitted definition of organizational capabilities is the consequence of the nature of organizational knowledge taken into consideration: sticky (Winter, 1995; Szulanski, 1997), system-dependent (Winter, 1987) and causally ambiguous (Lippman & Rumelt, 1982). Finally, the proposed approach offers the additional, non-trivial, advantage of enhanced measurability, with respect to the notions of combinative or architectural capabilities, in that experience curves and the existence of codification outputs can be easily quantified with the appropriate methodology.

Acquisition processes are organizational tasks which present, together with others such as alliance, reengineering or reorganization processes, a formidable challenge for the firm attempting to develop a specific capability in handling them. First of all, they occur in a relatively infrequent and unpredictable fashion, reducing the possibility to accumulate large amounts of “observations” necessary for the learning-by-doing mechanism to operate (March, Sproull & Tamuz, 1991). Second, when they do occur, they present themselves in highly heterogeneous forms and with diverse challenges to be tackled (Haspeslagh & Jemison, 1991). Third, the process is inherently causally ambiguous (Lippman, Rumelt, 1982), as the numerosity, simultaneity and interdependence of the decisions to be made and the actions to be taken, particularly in the context of the post-acquisition integration process, imply an endemic lack of clarity with respect to their performance implications.

Under these conditions, the extent to which acquiring firms codify the knowledge accumulated through past experiences might be a necessary pre-condition for a capability in the management of the integration process to develop. Through the creation and the updating of tools dedicated to the execution of the different phases of the acquisition process (negotiation, due diligence, integration planning and implementation), the acquiring firm might be able to form and constantly refine a clearer understanding of the determinants of performance outcomes. If this is true, then the following
hypothesis can be advanced:

**H1**: *The higher the degree of codification of the knowledge from previous acquisition experiences, the better the economic performance of the focal acquisition*

In addition, the extensive literature on the learning curve developed in the context of manufacturing processes (Yelle, 1979; Dutton & Thomas, 1984; Epple, Argote & Devadas, 1991; Lapre, Mukherjee & Van Wassenhove, 1998), as well as the one on the performance impact of acquisition experience reviewed above (Lubatkin, 1986; Fowler & Schmidt, 1989; Bruton, Oviatt & White, 1994; Pennings, Barkema, & Douma, 1994; Baum & Ginsberg, 1997; Halebian & Finkelstein, 1999) lend support for a second hypothesis based on the tacit accumulation of knowledge from previous acquisition experiences. Firms might be able to develop collective competence in the management of acquisition processes by simply doing more of the same, and thereby tacitly forming and refining organizational routines which might directly, that is without explicit articulation or codification effort, impact the performance of subsequent acquisition processes. If that is the case, then the following hypothesis can be submitted:

**H2**: *The greater the acquiring firm’s previous acquisition experience, the better the economic performance of the focal acquisition.*

### 3.2 Performance Implications of Post-Acquisition Integration Strategies

The knowledge-based perspective advanced cannot be based solely on the influence of knowledge accumulation mechanisms. The development of acquisition-specific capabilities, in fact, is obviously connected and intimately dependent on the type of integration approach selected by the acquiring firm. Given the nature of the organizational knowledge at the basis of acquisition processes described above, acquirers will in fact be able to only develop competence in the management of acquisition processes specific to the characteristics of the process itself. When the characteristics of the
acquisition process, particularly of the post-acquisition integration phase, change substantially, the acquirer will most likely find itself in the position of a novice and will have to start accumulating new competence specific to the new way of handling the process. It will be therefore crucial to our purposes to understand the performance implication of post-acquisition integration decisions, as important determinants of the characteristic of the acquisition process (Haseslagh & Jemison, 1991), and then to relate them to the capability-development process described above.

Two dimensions of the integration process have been identified from the literature reviewed in section 2: the level of organizational integration between the two firms involved in the acquisition, and the degree of replacement of the target’s resource endowment, with particular emphasis on the target’s top management team.

**The Level of Integration.** As the acquired firm is integrated more extensively in the acquiring firm, a number of both positive and negative outcomes might be expected. First and foremost, higher levels of integration between firms result in higher levels of disruption of the pre-existing resources and routines in both firms, and therefore to potential hazards for the performance of the combined entity (Marks & Mirvis, 1985; Schweiger, Ivancevich and Power, 1987; Buono & Bowditch 1989, Astrachan, 1990). This is consistent with established results on the effects of organizational change on firm survival (Amburgey, Kelly and Barnett, 1993; Haveman, 1992 and 1993). Also, the complexity of the integration process is clearly a direct function of the level of integration, as high integration approaches require a larger number of highly interdependent and virtually simultaneous decision-making processes, in which more parts and functions of the two organizations become involved (Kitching, 1967, Jemison & Sitkin, 1986, Pablo, 1994). Consequently, acquirers will in fact face higher levels of uncertainty on the performance outcomes of the integration process and take higher degrees of risk (Pablo, Sitkin and Jemison, 1996). Finally, high integration levels translate into increasing, explicit and hidden costs relative to the expenses (training, lay-offs, information systems conversion etc.) and
to the time and managerial attention (Ocasio, 1997) dedicated to the design and implementation of the integration process.

However, higher levels of integration among the two firms are necessary in order to realize the value creation potential of the transaction, either through cost efficiency or through revenue enhancement mechanisms (Datta & Grant, 1990; Haspeslach & Jemison, 1991; Shanley, 1994; Capron, 1999). In particular, the positive performance implications of the degree of resource relatedness (Rumelt, 1974 and 1984; Chatterjee, 1986; Lubatkin, 1987; Singh & Montgomery, 1987; Chatterjee et al., 1992)) imply that related acquisitions should be managed with at least a minimum level of organizational integration.

The large-scale empirical evidence, which might settle this theoretical debate, is unfortunately scarce. Datta and Grant (1990) fail to find statistically significant results for their overall sample and for the sub-sample of related acquisitions, whereas the unrelated acquisitions do seem to benefit from lower levels of integration. Shanley (1994), however, does find some evidence of positive performance impacts of the level of integration. We will then submit our hypothesis in the expectation that the benefits from economies of scale and scope would emerge only when the firms integrate their operations extensively, and that these benefits might overcome the negative impacts due to organizational disruptions, process complexity and implementation costs. More formally, we propose:

H3: The higher the degree of integration of the acquired firm within the acquirer, the higher the economic performance of the acquisition.

The Degree of Resource Replacement. A similar theoretical conundrum exists when we consider the relationship between resource replacement and acquisition performance. Of particular interest, given the attention received both in the theoretical and empirical literature, is the replacement of the top management team of the target firm. However, this variable might be also considered as a proxy for a more general construct of firm-wide replacement of resources, such as brand names, distribution
channels and physical assets on the argument that acquiring firms opting for an aggressive and fast integration process will apply a similar approach to all the existing resources which are considered non-vital.

According to the arguments made by proponents of the “market for corporate control” hypothesis, the better team gains control of the productive assets of the acquired firm (Manne, 1965; Jensen and Ruback, 1983) and therefore the performance of the combined entity should improve. As reviewed in section 2, however, scholars working in the human resources management and organizational behavior traditions suggest that the replacement of top management in the acquired firm will result in reduced economic performance because of the loss of human and social capital caused by the departure of top executives. Fortunately, in this case the little empirical evidence available is unambiguous; both the study by Cannella and Hambrick (1993) and by Krishnan, Miller and Judge (1997) find that managerial turnover reduces acquisition performance. Therefore, we propose the following hypothesis:

H4: The greater the level of replacement of top management in the acquired firm, the lower the economic performance of the acquisition.

3.3 Integrating Post-acquisition Decisions and Integration Capability

The proposed knowledge-based approach to the study of acquisition performance culminates in the consideration of the interaction effects between the capability-building process and the post-acquisition integration decisions described above. In particular, we will focus the attention to the combination of the arguments submitted above with respect to the implications of the knowledge codification mechanism for the performance of acquisitions, and the arguments regarding the increasing complexity of high integration approaches. We suggest the possibility of an important, and not yet explored, interaction effect among these two precursors of acquisition performance. According to this line of reasoning, higher degrees of codification of the integration process are increasingly
beneficial at increasing levels of integration, for two main reasons. First, the use of the tools generated via the codification process should allow a considerable reduction of the cognitive complexity of the integration process by simplifying the decision-making process and facilitating the coordination of the numerous implementation sub-tasks (Gavetti & Levinthal, 1998). Second, the increasing degrees of causal ambiguity consequent to higher levels of organizational integration will necessitate greater cognitive efforts aimed to the understanding, or at least the evaluation, of the performance implications of the larger array of decisions made and actions taken.

Task complexity, implicit in the degree of organizational integration, might then be an important moderator for the effect of knowledge codification on performance. In sociological terms, this observation lends an additional dimension to the arguments used by Adler and Boyd (1996) for their analysis of the conditions under which formalization might yield productive, as opposed to counterproductive, results. The degree of formalization might therefore represent a key to the management of complex contexts if it is enacted within a capability-building approach, enabling the achievement of higher levels of understanding and opposed to coercing the actions of the individuals involved. This is more likely to happen, however, the greater the learning challenge. Easier tasks might be more frequently approached with coercive, and therefore bureaucratic (in its derogatory sense), attitudes.

These arguments lead to the following hypothesis:

H5: The impact of the degree of knowledge codification on performance will be stronger in the context of a higher level of integration.

It is worth to note that, consequent to the arguments offered above with respect to the different logic operating behind the two capability-building mechanisms analyzed, the impact of tacit experience accumulation on acquisition performance should not depend upon the level of complexity of the post-acquisition integration process. Expertise, accumulated in a tacit semi-automatic fashion, should be of
equal relevance in the case of more or less complex tasks. Also, the performance implications of the
two capability-building mechanisms should be unaffected by the degree of resource replacement
selected. That decision might actually be made in order to simplify and speed up the integration
process and would in any case not represent a particularly strong cognitive challenge. Manuals and
decision support tools might be of little use for the laying off of the target’s top management!

4. RESEARCH METHODOLOGY AND MEASURES

4.1 The Research Setting

The hypotheses set forth above have been tested with a large study of acquisitive activities in
the U.S. commercial banking industry. This setting was deemed to be particularly well suited for our
research purposes. First, we needed to have a fairly comparable set of acquiring firms to study. By
holding the industry constant, we ensured that the population of firms from which we drew our sample
was relatively uniform in the environmental conditions that they were facing. Second, the industry was
undergoing a rapid period of consolidation in response to changes in regulation, allowing banks to
cross state lines as they strove to become regional and national players. This created a sufficiently large
universe of potential observations, in a relatively compact time frame, almost ideal conditions for
survey-based inquiries. Third, given the relevance of acquisition-driven growth in the industry, we
found a particularly fertile ground for both field work and survey participation. Fourth, banking has
been the single most active industry in terms of acquisition volumes since the beginning of the 90s,
with a share of the total domestic volumes estimated to be close to 30%. This provides some degrees of
comfort in generalizing some of the results to other industries, at least in the service sector.

The research design involved two phases: an initial fieldwork to gain a deeper understanding of
the integration process in this industry, and then a larger sample, questionnaire based, study of post-
acquisition practices and performance. For the initial field research, we obtained access to twelve
banks, all of which are active acquirers. We interviewed 45 decision-makers in these banks to obtain a finer understanding of the way they handle the integration challenges, and of the process by which they attempt to distill useful lessons from their prior acquisition experiences. In analyzing the content of these interviews, the following observations could be made:

(1) Most acquisitions made prior to 1990 were managed as virtually autonomous affiliates, without significant changes in their information systems, and top management teams were typically not replaced.

(2) More recently, acquiring banks sought ways of obtaining efficiencies by integrating the operations of the acquired bank into their own, by standardizing products of the combined organizations, and by converting information systems.

(3) Acquirers varied in their approaches to managing acquisitions not only longitudinally (higher levels of integration over time) but also cross-sectionally. Some acquirers allowed the acquired units to remain relatively autonomous, and typically retain their top management. Banc One is an example of this approach to managing acquisitions. On the other hand, equally experienced acquirers use substantially different approaches to manage essentially the same types of task, by integrating and or replacing existing resources to much higher degrees. Nationsbank (now BankAmerica) is considered to provide a good example of this more aggressive integration strategy.

(4) Finally, we were surprised to witness the degree to which some acquirers had codified the integration process, and the large cross-sectional variation among different acquirers along this dimension. Experience levels seemed to explain part, but not the entirety of this variation, as there were several inexperienced acquirers with highly sophisticated integration tools and highly experience ones with only average levels of codification.

The large sample study was implemented on the 250 largest bank holding companies in the U.S., which cover more than 95% of the industry assets. The asset size of the smallest invited
institution was about $400 million, which implies very rare acquisition activity and very small transaction sizes (usually one or two branches). Further extensions of the sample to smaller institutions were likely to have resulted in very few responses, because of the scarcity of acquisitive events, and in significant loss of comparability between the transactions analyzed.

The questionnaire consisted of two parts: The Acquisition History Profile, and The Acquiring Bank Questionnaire. The Acquisition History Profile consisted of a list of all acquisitions conducted by the bank, with basic information about each of them, such as their asset size, the degree of market overlap, pre-acquisition profitability, level of integration and the replacement of the top management team. The Acquiring Bank Questionnaire described characteristics of the acquisition process, including the type and the time of creation of acquisition support tools such as integration manuals, system conversion manuals, product mapping models, training packages, and other such items. Of the 250 bank holding companies contacted, 70 did not have any experience of acquisition after 1985, and 16 were acquired. Of the remaining 164 banks, we obtained responses from 51, translating into a response rate of 31.7%. This response rate is satisfactory given the complexity of the survey and the involvement of top management in responding to the survey. The respondents to the survey are in fact the manager responsible for corporate development or for the M&A group (26 cases) or the coordinator of post-acquisition integration processes (this figure existed in 14 of the institutions surveyed), or the CFO (9 cases), or, the CEO himself, in three cases of smaller institutions.

The responding institutions had completed 577 acquisitions, for an average of 11.4. To the best of our knowledge, this is the largest database on post-acquisition integration decisions ever constructed in any industry. Standard mean comparison tests were used to check for response bias. The responding organizations are not significantly different from the original set of 250 organizations in terms of return on assets, return on equity or efficiency ratios, although they tend to be larger in terms of asset size (p <.05). Upon examination of the collected data, four of the 51 responses had to be excluded from the
analysis due to serious lack of completeness in the data supplied.

4.2 Measures

Dependent Variable: Performance. Acquisition performance is measured as the difference between Return on Assets (ROA) of the acquiring bank three years after the acquisition versus the same measure one year before the acquisition. The acquired banks in our study are typically consolidated, from an accounting standpoint, into the acquiring banks, leaving no chance for an analysis of the target’s accounting performance variation. In order to control for market conditions, the acquiring bank’s return on assets is first adjusted against the performance of its peers in the same geographic area\(^1\). The change in performance over time is then expressed as:

\[
\text{Change in ROA} = (\text{ROA}_{i,t+3} - \text{ROA}_{c,t+3}) - (\text{ROA}_{i,t-1} - \text{ROA}_{c,t-1})
\]

where \(\text{ROA}_{i,t+3}\) and \(\text{ROA}_{i,t-1}\) = Return on assets of acquiring bank \(i\) in years \(t+3\) and \(t-1\) respectively, and \(\text{ROA}_{c,t+3}\) and \(\text{ROA}_{c,t-1}\) = Average Return on Assets in the same geographic area of the acquiring bank \(i\) at years \(t+3\) and \(t-1\) respectively.

The accounting data was collected from 1985 to 1997 with the use of three different databases (Compustat, Compact Disclosures and Moody’s) in order to maximize the coverage of the banking sector. The coverage of the banking sector (both respondents and non-) was significantly reduced for the years prior to 1985. Extending the data set would have implied a significant loss of comparability among the institutions surveyed as well as consistency among the observations between the first and the last years of the period. Given the construction of the dependent variable, then, the years 1985, 1995, 1996 and 1997 were lost, restricting the period of observation to the acquisitions completed between 1986 and 1994.

Explanatory Variables.

\(^1\) Seven geographic areas in United States (New England, North Atlantic, South Atlantic, Mid-west, South, Rocky
Knowledge Codification is measured as the sum of acquisition tools developed by the acquiring firm at the time of the acquisition. The tools are specific to different parts of the acquisition process, including financial evaluation, due diligence, conversion of information systems, human resources integration and sales/product integration. The information was gathered through the Acquiring Bank Questionnaire, which probed for the existence and the year of creation of the following items:

**Documents/Manuals**: Due Diligence checklist, Due Diligence manual, Systems conversion manual, Affiliation/integration manual\(^2\), Systems training manual\(^3\), Products training manual\(^4\),

**Quantitative Models**: Financial evaluation, Staffing models, Product mapping\(^5\), Training/Self-training packages, Project management\(^6\).

Acquisition Experience is computed as the number of acquisitions completed by the acquiring firm before the focal acquisitions. The Acquisition History Profile collected the list of all the acquisitions completed by the responding institution since founding or since a merger of equal. The oldest acquisitions in the data set were completed in 1968 (by Banc One and Crestar Bank). Even if the analysis is based on the observations in the 1986-1994 period (see above), the History Profile allowed the construction of the complete stock of prior acquisition experience for each of the acquisitions considered.

It is worth to note that the measurements of the two capability-building mechanisms, as well as of the dependent variables, are therefore not subjective and comparable across firms.

Integration was measured with a single scale collected with the Acquisition History Profile instrument. For each acquisition listed, respondents entered a digit varying from “0” (i.e. no integration, or

---

\(^2\) Manual describing all the procedures necessary to accomplish the desired level of integration between the two organizations. It usually covers issues such as human resources, accounting, audit, CRA etc..

\(^3\) Manual describing how to train the D.P. users at the acquired company. A “train-the-trainer” tool

\(^4\) Manual describing how to train the sales-force at the acquired company

\(^5\) Allows thorough comparison of the features of the acquired bank’s products with those of the acquirer.

\(^6\) Assigns tasks, requirements and deadlines, allowing careful planning and control of complex projects.
complete autonomy) to “3” (complete integration of the acquired firm within the acquirer).
Intermediate levels, respectively “1” and “2”, correspond to minor and major (but not complete) levels of integration.

Replacement was measured in a similar fashion on a four-point scale, with “0” representing the retention of the entire top management team of the acquired bank and “3” representing its complete substitution.

Controls
Relatedness. The research design called for limiting the variation in the degree of relatedness among the two organizations to the geographic dimension. The construct was then limited to the identification of horizontal acquisitions (or “in-market” in the banking lingo), coded as “1”, and market extension acquisition (or “out-market”), coded as “0”. This is a good proxy for resource relatedness in the industry, given the importance of geographic location as key competitive factor and the role played by the rationalization of the branch network in the process of creating value from acquisitions through cost efficiencies. In terms of value creation mechanisms, then, in-market acquisitions prioritize cost efficiencies driven by economies of scale, whereas “out-market” acquisitions rely on cross-selling opportunities and economies of scope.

Resource Quality. Also important, in order to isolate the effect of the resource replacement variable, is the assessment of the pre-acquisition quality of the resource endowment of the acquired firm. The construct was measured by assessing the performance level of the target bank prior to the acquisition. The scale anchors were: “-2” (the acquired institution was in a bankrupt situation), “-1” (it was a poor performer), “0” (it was an average performer), “+1” (it was a good performer) and “+2” (it was an outstanding performer).

Other controls include the asset size of the acquiring firm, the relative asset size of the acquired
firm with respect to the acquirer, and the number of acquisitions completed during the same year of the focal acquisition (to partially control for the effect of simultaneous acquisitions).

We did test the validity of our measures of integration, replacement, relatedness and resource quality using multiple item scales developed and applied to a sub-sample of 57 acquisitions. Comparisons of the means between this sub-sample and the entire database of acquisitions did not indicate any bias along all the constructs measured above. Three tests were utilized to check the validity of the measures described above: (1) Cronbach Alphas of phase 2 items, (2) correlation between the scale used in the study and the sum of the z-scores of multiple items, (3) correlation between the scale used in the study with the main factor extracted from the multiple items. All the constructs were validly represented by the measures used in the first survey, with the exception of resource relatedness, as geographic market overlap does not map well onto the broader notion of similarity among organizational resources. In the case of our measure of replacement of top management teams, the Cronbach alpha, the correlation of the scale used with the sum of the z-scores for the multiple items, and the correlation between the scale and the main factor extracted are 0.826, 0.606 (p<.01), and 0.549 (p<.01), all of which indicate that the replacement of top management scale used in the study is valid. For the degree of integration, the Cronbach alpha, the correlation of the single scale with the sum of the z-scores for the multiple items, and the correlation between the scale and the main factor extracted are respectively 0.950, 0.521 (p<.01), and 0.542 (p<.01), all of which indicate that the integration scale used in the study is valid. The results for relatedness (geographic factors) and the single item representation of relatedness, the Cronbach alpha, the correlation of the single scale with the sum of the z-scores for the multiple items, and the correlation between the scale and the main factor extracted are respectively 0.631, 0.520 (p<.01) and 0.520 (p<.01), all of which indicate that the relatedness scale used in the study is valid, particularly given its role as a control variable in our study. Finally, the resource quality measure was also confirmed in its construct validity,
as the Cronbach alpha, the correlation of the single scale with the sum of the z-scores for the multiple items, and the correlation between the scale and the main factor extracted are respectively 0.853, 0.463 (p<.01), and 0.482 (p<.01).

The Model
The model being tested in this study is specified as follows:

\[
\text{Ch. In ROA} = a + b \times \text{integration} + c \times \text{replacement} + d \times \text{codification} + e \times \text{experience} + f \times \text{codification} \times \text{integration} + \text{controls} + \varepsilon
\]

Where the expected signs are: \(b>0\), \(c<0\), \(d>0\), \(e>0\), \(f>0\) and the error term is distributed according to the standard normality assumptions.

The analytical method used is ordinary least squares regression. Since codification and integration were used and then multiplied to create the interaction term, z-scores of both variables were used to compute the interaction term. This eliminated the multicollinearity problem in the estimated model (VIF was lower than 3 for all the covariates). Four observations were identified as outliers (> 3 st. dev.) and excluded from the analysis. The only other violation to standard normality assumptions that we could find relate to a possible correlation of the error terms due to the fact that there are multiple observations for each responding institution. It will be dealt with as explained in the next section below.

5. RESULTS

Table 1 reports descriptive statistics and the correlation matrix on the data used in this study. An interesting piece of information, given the emphasis received in the literature on mergers and acquisitions, is that the mean for the performance variable (-0.004) is not statistically distinguishable from zero, thereby confirming the standard result in the corporate finance literature, as reviewed in
section 2.1. The correlation table indicates that the dependent variable is significantly correlated with virtually all the variables subjected to hypothesis testing, with the notable exception of acquisition experience. However, many of the explanatory variables are also correlated among themselves. A multivariate analysis is therefore necessary in order to identify the net influence of each of them on acquisition performance.

The results of a regression analysis of the model described above are reported in Table 2. The six nested models presented allow the identification of the effect of each group of variables on acquisition performance. The models fit with the data reasonably well, as shown by the strongly significant F-statistics (p<.001) and by an increasing adjusted $R^2$ statistic (.165 in the full model). The incremental F-statistic (not reported) is statistically significant in each model, with the exception of the one introducing the level of acquisition experience. With respect to the explanatory power of the groups of variables entered in the model, the two post-acquisition decisions considered appear to be the strongest determinants of the variance in acquisition performance. The organizational learning variables, as well as the pre-acquisition resource characteristics (entered as a separate explanatory group because of their theoretical relevance) show mixed results, with only one of the two variables significantly influencing performance.

Moving on to the effects of the individual factors, the analysis indicates that hypothesis 1, positing a positive relationship between knowledge codification and performance is strongly supported (p<.001). In addition, its interaction with the level of integration is also statistically significant at the 5% level, supporting hypothesis 5. The fact that the creation of these tools show increasingly strong (and positive) influence on acquisition performance at increasing levels of integration (i.e. of task complexity) provide some empirical support for the arguments made in Section 3 with respect to the role of strong cognitive efforts in the developing of integration capabilities.

The accumulation of tacit knowledge through acquisition experience, instead, results to be a
non-significant predictor of performance, failing to support hypothesis 2. This finding confirms the mixed results shown in the received literature on the performance implications of acquisition experience accumulation. The data analyzed seems to suggest, then, that in the context of infrequent, heterogeneous and causally ambiguous tasks, such as the management of acquisition processes, organizations are capable of developing competence primarily through the articulation and codification of knowledge derived from previous acquisition experiences. The simple exposure to acquisitive events does not seem to suffice.

For what concerns the influence of the variables related to post-acquisition decisions, both strongly confirm the hypotheses submitted in section 3. Hypothesis 3, suggesting that the level of integration is positively associated with changes in performance is in fact supported at the 1% level, and so is hypothesis 4 with large and negative coefficients for the degree of replacement of the top management team (as per Cannella & Hambrick, 1993). The strength of these results was frankly quite surprising, given the existence of theoretical arguments supporting both a positive and a negative impact for both decisions. Important implications can be drawn in favor of the process view of corporate acquisitions (Jemison & Sitkin, 1986; Haspeslagh & Jemison, 1991) and against the argument that acquisitions are to be viewed as mechanisms to replace inferior management teams with better ones (Manne, 1965; Jensen & Ruback, 1983).

Compared to post-acquisition decisions, the characteristics of the pre-acquisition resources of the target (resource quality and market relatedness) turn out to be a relatively weak set of explanations, with the market relatedness measure showing no statistically significant effect on performance. This is puzzling from a theoretical standpoint as the potential for economies of scale should be significantly superior in horizontal acquisitions, compared with market extension ones. The higher degree of overlap of the two branch networks, in fact, typically allows efficiency gains from its rationalization. One interpretation might be that acquirers can create (and destroy) value equally well through cost
rationalizations or through revenue enhancement processes (which becomes the priority in market extension acquisitions). A second one, refers to the fact that cost efficiencies might be more easily bargained away during negotiations, compared to revenue enhancements, due to their higher degree of transparency to the seller. Revenue-based synergies, typically considered more complex to achieve, offer the advantage of being more appropriable, as the seller might have more difficulty in assessing their potential. Resource quality, instead, presents a consistently negative impact on performance, indicating the superiority of the transfer of resources and capabilities from the acquirer to the target, with respect to the opposite mechanism, where that acquirer “learns” from the acquired entity. This is consistent with recent results obtained by Capron (1999) on the performance implications for the direction of the flows of resource redeployment. None of the other variables entered as controls in the model, acquirer’s size, acquisition relative size and the frequency of simultaneous acquisitions influence performance in a significant way. This lends further comfort to the impression that the variables considered in our theoretical discussion are meaningful and relevant to the explanation of acquisition performance.

As highlighted in the previous section, there is a possibility that errors are not independently distributed due to the presence of multiple observations from the same responding institution. In order to minimize this problem, the analysis was replicated aggregating the data in two different ways: the Firm/year level of analysis (all acquisitions in the same year by the same firms were averaged), and the firm level of analysis, where all the acquisitions completed by the same firm were aggregated (see Table 3). Weighted least squares estimations at these two levels of analysis yield results that are consistent with the ones described above, in spite of the significantly lower number of degrees of freedom. The result offers further evidence of the descriptive power of the model estimated, with

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The drop from 47 to 31 banks is explained by the fact that a lot of institutions completed their acquisitions only in the last 3 years of the observed period (1985-1997), and therefore are missing from the analysis. Also, the aggregation process was restrictive, in the sense that any bank with one missing value in any one of the acquisitions completed was removed from
respect to the sample studied. Using firm-level dummies to control for firm effects was not appropriate in this case, as they would have picked up the measurement errors of our main theoretical variables (experience accumulation and knowledge codification). Also, while dummies might alleviate the problem, the aggregation of the data eliminates it, as only one observation is now available per each respondent.

6 CONCLUSIONS

The objective of this paper was to discuss the role of post-acquisition decisions and of capability building processes in the explanation of the variance in the economic performance of corporate acquisitions. We proposed a knowledge based perspective of acquisitions which builds on the intuition that an important antecedent of success might lie at the intersection of the two sets of explanations: acquiring firms need to select the opportune mix of integration decisions and simultaneously develop the capability to implement it. In order to inform this perspective, we drew upon multiple theoretical traditions, using resource-based, process-based and evolutionary economics arguments to enrich the existing literature on the so-called knowledge-based view of the firm (Kogut & Zander, 1992; Grant, 1996). One crucial insight, which seems to be supported by the data analyzed, is that firms develop collective competence not just through the accumulation of experience, but also through the investment of time and efforts in activities which, more or less explicitly, require higher order cognitive efforts in order to produce enhanced awareness of the action-performance links. Firms learn directly via processes of articulation and codification of the key lessons extracted from previous experiences, even if they might not be aware of the positive learning spillovers of these activities. To an extreme, the benefit in the creation and fine-tuning of acquisition-specific tools might lie more in the learning achieved in the process, than in the use of the outputs as coordination and support mechanisms for the analysis.
for the implementation phase.

The focus of this study on the antecedents of the variance in acquisition performance aims at two different goals. The first is to contribute to the M&A literature by further emphasizing the firm-level factors, including post-acquisition management decisions and learning, that explain acquisition performance. The second is to identify which learning mechanisms are actually more important in explaining post-acquisition performance, and thereby contributing to the organizational learning literature in studying the relative effectiveness of capability building mechanisms under conditions of low frequency, high heterogeneity and high causal ambiguity of the organizational task.

The results of the empirical analysis confirm that the model proposed exhibits a good fit with the data collected. They also provide some clear indications as to the relative explanatory power of the different sets of theoretical explanations for the dependent variable. Post-acquisition integration strategies emerge as the strongest determinants of acquisition performance. In this sense, the so-called “process-view” of acquisitions (Jemison & Sitkin, 1986; Haspeslagh & Jemison, 1991; Pablo, 1994; Pablo, Sitkin & Jemison, 1996) results strongly supported by the results of this analysis.

Acquirers, at least in the contest studied, should strive to achieve higher levels of integration. Although the prior literature relating the level of integration to performance is quite equivocal, this result suggests that, at least in an industry such as banking (in a trend of efficiency-driven consolidation), the benefits from cost efficiencies, achievable via higher levels of integration, might be superior to the costs inherent in the integration process (routine and competence disruptions, increased process complexity and hidden implementation costs). This finding strengthens the little available evidence in the strategic management literature (Datta and Grant, 1990; Shanley, 1994) and at least qualifies the negative consequences typically attributed to post-acquisition integration processes by the human resources management and organizational behavior literature (Marks & Mirvis, 1985; Schweiger, Ivancevich and Power, 1987; Buono & Bowditch 1989, Astrachan, 1990).
Regarding the degree of replacement of top management, the results are not consistent with the view that replacing top management has beneficial effects on performance. In fact, our results show that, controlling for the quality of the pre-acquisition performance of the target, high levels of replacement produce negative implications for performance. Since the study tracks changes in performance three years after the acquisition and controls for the equivalent changes in the performance of competitors, the result attributes severely negative consequences of top management replacement for acquirers’ competitive advantage, and confirms Cannella and Hambrick’s (1993) findings.

The second, and related, challenge for the acquiring firm seems to be connected to the development of an organizational capability specialized in the management of the acquisition process, with a particular emphasis to be assigned, as per the discussion above, to the management of the post-acquisition integration phase. Knowledge based variables in the model show interesting and variegated effects on performance. Whereas the degree of codification of the acquisition process exhibits a strong and positive influence on acquisition performance, the impact of experience accumulation is non-significant. While the former result is at its first appearance in the literature, the latter adds to a series of mixed results on experience accumulation in these types of tasks. Learning curve effects in the context of highly infrequent and heterogeneous events, then, might be heavily taxed by the possibility of making erroneous generalizations from the lessons learned in one context to the application in seemingly similar but inherently different domains (Cormier & Hagman, 1987; Cohen & Bacdayan, 1994; Halebian & Finkelstein, 1998 and 1999).

Importantly, and central to our arguments, the interaction between the degree of codification and the level of integration is positively and significantly influencing acquisition performance. At increasing levels of complexity of the task at hand, the beneficial effect of explicitly extracting lessons learned from previous experiences is more likely to overcome the costs connected to codification.
activities, related to increasing levels of organizational inertia, as well as direct investments in time, effort and managerial attention.

We also introduced the type of acquisition (horizontal or market extension) as an important control variable in the analysis. The lack of significant performance implications for this variable is an interesting result as well. Ex ante, one could argue that the acquisition of a competitor in the same geographic area would have higher potential for efficiency-driven cost reductions. However, one could also argue that such acquisitions would have a more complex integration process in terms of the number of potential overlaps of resources and activities across the organizations and the consequently large array of simultaneous, interdependent decisions and action steps necessary to accomplish the integration of overlapping resources and activities. The finding suggests that the characteristics of pre-acquisition resources might not necessarily predict post-acquisition performance. It is the set of post-acquisition decisions about the manipulation of those resources, the capability to do so eventually developed by the acquiring firm, and the fit between these two factors, that seem to matter most.

It is important to note, however, that our sample does not include, by design, product extension and unrelated acquisitions, so the range of variation on acquisition type is less extensive than most other studies. The economic logic arguing for superior performance implications of related acquisitions, however (essentially cost efficiencies from elimination of redundant resources), should work also in the comparison between horizontal and market-extension type of transactions.

This study has other limitations. First, it is a single industry study, and therefore its applicability to other industries needs to be closely examined. We feel, however, that the banking industry is indicative of many other industries that are experiencing frequent acquisition activity as they consolidate because of deregulation pressures, such as telecommunications, defense, and other sectors of the financial services industry, or because of acquisitive growth pursued by a subset of incumbents, such as the retailing industry. Second, we used operating performance measures, adjusting for industry
level performance. Given the nature of the problem we addressed (post-acquisition integration
decisions and related capabilities), it was not advisable to use market measures of performance based
on stock price reactions at the time of the announcement, as the core explanatory variables are
generally not part of the set of information perceived by the markets at that time. Our measures are
however consistent with the most fine-grained operating performance measures used in bank
acquisition studies (Rhoades, 1994; Pilloff & Santomero, 1997).

This study of acquisitions is an initial attempt to bridge and integrate different theoretical
approaches to the ever-booming phenomenon of corporate acquisitions. Firms around the world
invested $1.4 trillion dollars in these type of ventures in 1998 alone (a 50% increase on the previous
year), and when they turn to academia for some guidance on how to improve the chances of creating
value from their investments, they are typically met with a set of highly segmented recommendations.
Finance scholars will point to the fact that acquisitions on average do not create abnormal returns for
the acquirers, somehow implying that they are a waste of time and money. Strategy scholars are a bit
more optimistic, distinguishing between more sensible (i.e. related) and less sensible (i.e. unrelated)
types of investments. Finally, scholars in organization studies emphasize the hardships connected with
the effective management of the integration phase, the disruption of existing resources and
competencies and the loss of managerial and operational talent.

We hope that this study will help to signal the advantages of bridging and integrating different
theoretical perspectives in offering managers a more clearly defined and useful account of the
conditions under which competitive advantage can be gained or destroyed in acquisition activities.
Acquisitions, like any other challenging organizational task, can be effectively managed in a
consistently value-creative way, and, even more importantly, firms seem to be capable of developing
specific capabilities allowing them to constantly improve their chances of success. While more studies
will be necessary in order to test the hypotheses advanced in this paper in different contexts and to
achieve an even more fine-grained understanding of the conditions under which integration strategies work and integration capabilities can develop, we believe that these results represent a promising direction for expanding our understanding of the phenomenon, and simultaneously, enhance the relevance of our research for managers and policy-makers alike.
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<th>Avg</th>
<th>Std</th>
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Pearson’s correlation. Bold numbers are significant at the 0.05 and italic at 0.01.
Table 2 – Acquisition Performance: Transaction level of Analysis

<table>
<thead>
<tr>
<th>Controls</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquirer’s size</td>
<td>-.031</td>
<td>-.044</td>
<td>-.064</td>
<td>-.054</td>
<td>-.127</td>
<td>-.118</td>
</tr>
<tr>
<td>Relative acquisition size</td>
<td>.072</td>
<td>.065</td>
<td>.080</td>
<td>.077</td>
<td>.096</td>
<td>.072</td>
</tr>
<tr>
<td>Simultaneous acquisitions</td>
<td>.298***</td>
<td>.308***</td>
<td>.129</td>
<td>.149</td>
<td>.155</td>
<td>-.113</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Target-Based Factors</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target quality</td>
<td>-.136**</td>
<td>-.18***</td>
<td>-.179***</td>
<td>-.221***</td>
<td>-.227***</td>
<td></td>
</tr>
<tr>
<td>Target relatedness</td>
<td>.001</td>
<td>.062</td>
<td>.064</td>
<td>.068</td>
<td>.061</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post-acquisition Decisions</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of integration</td>
<td>.181**</td>
<td>.174**</td>
<td>.176**</td>
<td>.185**</td>
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<td></td>
</tr>
<tr>
<td>Degree of replacement</td>
<td>-.344***</td>
<td>-.339***</td>
<td>-.338***</td>
<td>-.336***</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Integration Capability</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquisition experience</td>
<td>-.037</td>
<td>-.098</td>
<td>-.081</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knowledge Codification</td>
<td></td>
<td>.198**</td>
<td>.207***</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Codification x Integration</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F statistic</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.024***</td>
<td>4.544***</td>
<td>5.976***</td>
<td>5.234***</td>
<td>5.455***</td>
<td>5.506***</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjusted R²</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>.062</td>
<td>.072</td>
<td>.133</td>
<td>.129</td>
<td>.150</td>
<td>.165</td>
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</tr>
</tbody>
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<table>
<thead>
<tr>
<th>N</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>228</td>
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<td>228</td>
<td>228</td>
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</tr>
</tbody>
</table>

Standardized beta coefficients: significant at the 0.01 (**), 0.05(*) or 0.10 (*) level
Table 3 – Acquisition Performance - Organizational level of Analysis
Dependent Variables: Avg. change of ROA

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resource-based Factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of assets (avg.)</td>
<td>-.259</td>
<td>-.310</td>
<td>-.315</td>
<td>-.549***</td>
</tr>
<tr>
<td>Market relatedness</td>
<td>.250</td>
<td>-.013</td>
<td>-.031</td>
<td>.109</td>
</tr>
<tr>
<td><strong>Post-acq. Decisions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td>.559***</td>
<td>.546***</td>
<td>.518**</td>
<td></td>
</tr>
<tr>
<td>Replacement</td>
<td>-.292</td>
<td>-.259</td>
<td>-.292</td>
<td></td>
</tr>
<tr>
<td><strong>Integration Capability</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquisition experience</td>
<td></td>
<td>.066</td>
<td>-.068</td>
<td></td>
</tr>
<tr>
<td>Knowledge codification</td>
<td></td>
<td></td>
<td></td>
<td>.515***</td>
</tr>
<tr>
<td><strong>F statistic</strong></td>
<td>3.068*</td>
<td>4.368***</td>
<td>3.408**</td>
<td>5.364***</td>
</tr>
<tr>
<td>F improvement</td>
<td>3.068*</td>
<td>4.853**</td>
<td>.130</td>
<td>9.546***</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.118</td>
<td>.303</td>
<td>.280</td>
<td>.458</td>
</tr>
<tr>
<td>N</td>
<td>31</td>
<td>31</td>
<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>

Standardized Beta coefficients. Significant at the 0.01 (***) or 0.10 (*) level
REFERENCES


